

We Claim:

1. An expression vector comprising nucleic acid encoding at least one K⁺ channel gene operably linked to a promoter for expression in a host cell.
2. A vector according to claim 1, wherein the K⁺ channel gene is selected from the group consisting of Kv1.5 and Kv2.1/9.3, Kv1.2, Kv3.1, large conductance calcium-sensitive K⁺ channel genes and BK_{Ca}.
3. A vector according to claim 1, wherein the vector further comprises a reporter gene operably linked to the nucleic acid.
4. A vector according to claim 1, wherein the vector is replication-deficient.
5. A vector according to claim 1, wherein the promoter is a tissue specific promoter.
6. An isolated host cell stably transformed with the expression vector of claim 1.
7. A composition comprising an expression vector comprising nucleic acid encoding at least one K⁺ channel gene operably linked to a promoter, and a pharmaceutically acceptable excipient.
8. A host cell transformed with nucleic acid encoding at least one K⁺ channel gene.
9. A method of treating a vascular disease comprising administering to a person having a vascular disease a composition comprising an expression vector encoding at least one K⁺ channel gene operably linked to a promoter and a pharmaceutically acceptable excipient.
10. A method according to claim 8, wherein the vascular disease is selected from one of pulmonary hypertension and patent ductus arteriosus.
11. A method according to claim 9, wherein the administration is by nebulization.
12. A method according to claim 9, wherein the administration is intravascular.